

CFR chapter I. Before Class 1 (explosive) materials are loaded aboard a vessel, all cables must be tested by a skilled person to ensure that they are safe and to determine satisfactory grounding, insulation resistance, and continuity of the cable cores, metal sheathing or armoring.

(c) All Class 1 (explosive) materials must be stowed in a safe position relative to electrical equipment and cables. Additional physical protection must be provided where necessary to minimize possible damage to the electrical equipment or cables, especially during loading and unloading.

(d) Cable joints in the compartments must be enclosed in metal-clad junction boxes.

(e) All lighting equipment and cables must be of the fixed type, and must meet the relevant inspection, test, and installation standards of 46 CFR chapter I, subchapter J.

[Amdt. 176-30, 55 FR 52696, Dec. 21, 1990, as amended by Amdt. 176-34, 58 FR 51533, Oct. 1, 1993]

#### § 176.120 Lightning protection.

A lightning conductor grounded to the sea must be provided on any mast or similar structure on a vessel on which Class 1 (explosive) materials are stowed unless effective electrical bonding is provided between the sea and the mast or structure from its extremity and throughout to the main body of the hull structure. (Steel masts in ships of all welded construction comply with this requirement).

#### § 176.122 Stowage arrangements under deck.

When stowed under deck, Class 1 (explosive) materials must be in conformance with one of the stowage arrangements described in §§176.124 through 176.136 of this subpart.

#### § 176.124 Ordinary stowage.

(a) Ordinary stowage is authorized for most explosive articles carried by vessel. The exceptions are those for which this subpart prescribes “magazine” or “special” stowage.

(b) Class 1 (explosive) materials requiring ordinary stowage must be stowed in accordance with §176.116 of this subpart.

#### § 176.128 Magazine stowage, general.

(a) Magazine stowage is sub-divided into three different types of magazines designated by the letters A, B, and C. A magazine may be a fixed structure in the vessel, a closed freight container, or a portable magazine unit. Freight containers, portable magazines, and vehicles must be properly secured in position. Magazines may be positioned in any part of the vessel conforming to the general stowage conditions for Class 1 (explosive) materials, except magazines which are fixed structures must be constructed in a location in which their doors, where fitted, are easily accessible.

(b) Magazine stowage is required for all explosive substances, except “Explosive Substances, n.o.s.” in compatibility groups G, L, or S. Magazine stowage type A is required for those substances which must be kept clear of steelwork. All other explosive substances must be given magazine stowage type B, except those in compatibility group A for which magazine stowage type C is prescribed.

(c) Magazine stowage type B is required for Charges, propelling, for cannon, UN 0279, UN 0414, and UN 0242; and Charges, supplementary, explosive, UN 0600, in compatibility group C or D. Magazine stowage type C is required for detonators and similar articles in divisions and compatibility group 1.1B and 1.2B (explosive).

[Amdt. 176-30, 55 FR 52696, Dec. 21, 1990, as amended at 66 FR 33438, June 21, 2001; 66 FR 45384, Aug. 28, 2001; 67 FR 61015, Sept. 27, 2002]

#### § 176.130 Magazine stowage Type A.

(a) In addition to protecting the Class 1 (explosive) materials and preventing unauthorized access, magazine stowage type A guards against friction between any spilled contents of packages and the vessel's sides and bulkheads.

(b) Class 1 (explosive) materials requiring magazine stowage type A must be stowed in a magazine which is tightly sheathed with wood on its inner sides and floor.

(c) When utilized as part of the magazine structure, the vessel's sides and bulkheads must be clean, free from

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rust or scale, and protected by battening or sweatboards spaced not more than 150 mm (6 inches) apart. All stanchions and other unprotected structural members must be similarly clean and battened. The underside of the deck above the magazine must be clean and free of rust and scale, but need not be battened.

(d) The top of the stow within the magazine must be at least 30 cm (12 inches) from the underside of the deck above.

(e) A type A magazine constructed in the square of a cargo space may not be loaded from the top.

(f) When other Class 1 (explosive) materials are stowed with Class 1 (explosive) materials for which magazine stowage type A is required, they or their packagings may have no exposed external parts made of ferrous metal or aluminum alloy.

## § 176.132 Magazine stowage Type B.

(a) Magazine stowage type B is the same as magazine stowage type A as prescribed in § 176.130 of this part, except:

(1) The floor need not be tightly sheathed with wood but must be sparred or protected by wooden pallets or dunnage; and

(2) Battening of the vessel's sides, bulkheads, and stanchions is not required.

(b) A compartment may be used for magazine stowage type B without a magazine structure provided that:

(1) The Class 1 (explosive) materials are stowed on wooden gratings, pallets, or dunnage, directly on the deck and not on other cargo;

(2) Other cargo stowed in the same compartment is not readily combustible material; and

(3) The position of the stowage is such that there is direct access to the hatchway.

(c) Class 1 (explosive) materials and other cargo in the same compartment must be secured to eliminate the possibility of significant movement. Where an entire deck is used as a magazine, the stowage must be so arranged that the Class 1 (explosive) materials stowed therein will be removed from the ship before working any cargo in

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any decks above or below the space in the same hatch.

[Amdt. 176-30, 55 FR 52696, Dec. 21, 1990, as amended at 56 FR 66282, Dec. 20, 1991]

## § 176.133 Magazine stowage Type C.

The construction requirements for magazine stowage type C are the same as for magazine stowage Type B as prescribed in § 176.132 of this part, except that the magazine must be located as near as practicable to the centerline of the vessel and must not be closer to the vessel's side than a distance equal to one-eighth of the vessel's beam or 2.5 m (8.2 feet), whichever is less.

[Amdt. 176-30, 55 FR 52696, Dec. 21, 1990, as amended at 66 FR 45185, Aug. 28, 2001]

## § 176.134 Vehicles.

Closed vehicles may be used to transport Class 1 (explosive) materials requiring magazine stowage when carried by vessel if they meet the requirements of the appropriate magazine stowage type. See § 176.168 of this subpart for additional requirements relating to the transport of Class 1 (explosive) materials in vehicles.

## § 176.136 Special stowage.

(a) Special stowage is required for certain articles presenting both explosive and chemical hazards, such as smoke or lachrymatory (compatibility group G or H), toxic (compatibility group K), or substances and articles which present a special risk (compatibility group L). Except as permitted in paragraph (c) of this section, Class 1 (explosive) materials requiring special stowage must be stowed on deck unless such stowage is impracticable and the COTP authorizes special stowage below deck.

(b) Class 1 (explosive) materials for which special stowage is required must be stowed as far away as practicable from living accommodation, and working areas, and may not be overstowed. Steel portable magazines and freight containers in which such Class 1 (explosive) materials are stowed may not be located closer to the vessel's side than a distance equal to one-eighth of the vessel's beam or 2.5 m (8.2 feet), whichever is less.